

24



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,636	05/02/2005	Shigeki Sakaguchi	038788.56262US	1788

23911 7590 04/04/2006  
CROWELL & MORING LLP  
INTELLECTUAL PROPERTY GROUP  
P.O. BOX 14300  
WASHINGTON, DC 20044-4300

EXAMINER

BOLDA, ERIC L

ART UNIT PAPER NUMBER

3663

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/533,636

Applicant(s)

SAKAGUCHI ET AL.

Examiner

Eric Boldt

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/2/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

The specification is generally narrative and indefinite, failing to conform with current U.S. practice. It appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 13, the claims recites "the optical amplifying fiber of the amplifying fiber module is circularly wound and is hermetically sealed with a laminated film having a lamination of metal and resin", while the specification states on p. 9, lines 14-16, "the optical amplification module (13) is a thin member hermetically sealed within a laminated film," so that it is unclear whether the fiber or the module (housing) is to be hermetically sealed. The Examiner has assumed it is the housing that is hermetically sealed.

With regard to claim 14, the claims recites "the amplifying fiber module and the monitor module are piled in a direction along thickness of the package". The use of the word "piled" here could not be understood and appears to be a literal translation from a foreign language.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Bennett (US Pat. No. 6,917,731) or alternatively Vollnhals (WO 96/37019, cited in Applicant's IDS of May 2, 2005).

Bennett discloses in Fig. 1a-c an optical power supply (pumping) module, a housing with input and output fibers containing

- An optical signal input terminal (10a),
- a pumping light source (101')
- a multiplexing filter (102') multiplexing an optical signal and the pumping light, and
- an output terminal (10b)

Bennett discloses in Fig. 1d an amplifying fiber module, a housing with input and output fibers containing an optical amplifying fiber (104), and in Fig. 1e a monitor module, a housing containing

- an input terminal (30a)
- an output terminal (30b)
- a distribution filter (wavelength division multiplexer) (102' or 102a) separating a part of the optical signal, and
- a light receiver (107)

In Fig. 3, it is shown that the output of the optical power supply is connected to the input of the amplifying fiber module and the output of the amplifying fiber module is connected to the input of the monitor module. In Fig. 29(c) and 31<sup>st</sup> col. lines 37-46, Bennett discloses that the modules (20) are mechanically connected to a substrate/motherboard which substantially constitutes a major package for the modules in Figs. 1.

Alternatively, Vollnhals discloses in Fig. 1 the connected modules substantially as in the claim.

***Claim Rejections - 35 USC § 103***

Art Unit: 3663

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennet as applied to claim 8 above and further in view of Go (EP App. No. 0651475, cited in Applicant's IDS).

With regard to claim 9, Bennett does not disclose that the optical signal input terminal, the pumping light source and the output terminal of the pumping module are positioned such that the two optical axes joining two of the three optical elements intersect at an angle less than 20 degrees, and the multiplexing filter is placed at the intersection. However, Go teaches in Fig. 4 an optical demultiplexing module in which the pump light, input signal light and output signal light intersect substantially as in the claim. The pumping light is admitted into the multiplexer at the intersection of the optical axes at an angle of less than 22.5 degrees. It would have been obvious to one skilled in

the art (e. g. an optical engineer) to combine the multiplexer arrangement of Go with the optical modules of Bennett, for the advantage of easy assembly.

With regard to claim 11, It would be obvious to extend the scheme of Go to demultiplexing the output signal light from the amplifier, into the monitor module, for the advantage of easy assembly.

It is well-known in the art of optical engineering to make a multiplexing filter as a dielectric multilayer film.

9. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennet as applied to claim 8 above and further in view of Fujitsu Ltd. (JP 10-190111, cited in applicant's IDS). Bennet does not disclose that the multiplexing filters of the pumping or the monitor module is mounted on a seat that is movable in a direction perpendicular to the primary optical axis. However, Fujitsu Ltd. Teaches in Fig. 4, elements (32-1) and (32-6) that the multiplexing filter in a module is mounted on a seat that moves substantially perpendicular to the primary optical axis. It would have been obvious to one skilled in the art (e. g. an optical engineer) to mount the multiplexing filters of Bennet's pumping and monitor modules as in Fujitsu Ltd. For the purpose of ease of assembly.

10. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennet as applied to claim 8 above and further in view of Kato (US Pat. No. 5,737,467). Bennet does not disclose that the amplifying fiber module is hermetically sealed with a laminated film or metal and resin, nor that the fiber is circularly wound. However, Kato (entire patent) teaches a resin-molded optical assembly that is

hermetically sealed in a laminate. It would have been obvious to one skilled in the art (e. g. an optical engineer) to seal the modules of Bennet as taught by Kato to protect the modules against environmental conditions (e. g. in an undersea optical transmission system). It is well known to circularly wind an amplifying fiber to reduce the size of an optical amplifier.

### ***Information Disclosure Statement***

11. The information disclosure statement filed on May 2, 2005 has been considered by the Examiner.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Badr et al., Csipkes et al, Ido et al., Bliss et al, Bennett et al., Kunikane et al., and Sawai.

13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Bolda whose telephone number is 571-272-8104. The examiner can normally be reached on M-F from 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Jack Keith, can be reached on 571-272-6878. Please note the fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.



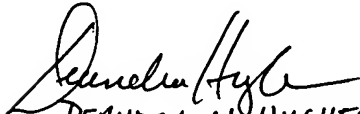
Art Unit: 3663

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EB

Eric Bolda

  
DEANDRA M. HUGHES  
PRIMARY PATENT EXAMINER  
AU 3663